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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/647,080 | 09/26/2000 | Jerome Meric | 11345.017001 | 4075 |

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| EXAMINER |
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LAMBRECHT, CHRISTOPHER M

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| ART UNIT | PAPER NUMBER |
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2611

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/647,080 | MERIC ET AL. | |
| | Examiner | Art Unit | |
| | Christopher M. Lambrecht | 2611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 16, 25, and 26** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,369,855 to Chauvel et al. (hereinafter “Chauvel”).

Regarding **claim 16**, Chauvel discloses a receiver/decoder [100] (fig. 1A) comprising:

at least one port for receiving messages (from FEC 40, fig. 1A, col. 10, ll. 8-12);

at least one application module [250] (fig. 1B);

a memory including a buffer section [312] (fig. 1B, col. 20, ll. 8-13, where a FIFO constitutes a buffer) and a FIFO section [240] (fig. 1B, col. 10, ll. 30-35);

a buffer controller [310] (fig. 1B) responsive to a message (i.e., a transport packet) appearing at the at least one port (col. 10, ll. 8-20),

wherein the buffer controller [310] is configured to write the message into the buffer section [312] (col. 10, ll. 25-26) and, after complete writing of the message, to read the message from the buffer section out to the at least one application module [250] in response to a control signal from the at least one application module [250] (col. 10, ll. 60-65);

a FIFO controller [310] (fig. 1B) coupled to the at least one port (via bus 320/330 and TPP 210, fig. 1B), and the at least one application module [250] (see fig. 1B) and responsive to a message (i.e., a data stream) appearing at the port to which the FIFO controller [312] is coupled (col. 10, ll. 8-20),

wherein the FIFO controller [310] is configured to write the message into the FIFO section [240] of the memory (col. 10, ll. 30-35), read the message from the FIFO section [240] out to the at least one application module [250] (via 312, col. 10, ll. 60-65), and read the message from the FIFO section [240] out to a further port [280] (col. 11, ll. 55-65) without awaiting complete writing of the message (where RAM 240 is approximately 4.5KB, col. 12, ll. 7-14, RAM 240 cannot store an entire program stream, and hence, the stream data is inherently read out of 240 without awaiting complete writing of the message);

thereby enabling the receiver/decoder [100] to receive, depending on the needs of an application module or on the nature of the message, a message at the at least one port to be read out to the further port [280] without awaiting complete writing of the message and to be read out to the at least one application module [250] either after complete writing of the message or without awaiting complete writing of the message (i.e., whether or not further processing is required of transport stream packets, based on the data they contain, col. 10, ll. 10-20, message may be read out continuously (without awaiting completion of writing) to application module 250, col. 10, ll. 30-35 & 60-65, or individual transport packets may be written completely and read out to application module 250 for e.g., synchronization purposes, col. 10, ll. 35-41 and col. 10, l. 66 - col. 11, l. 13).

Regarding **claim 25**, Chauvel discloses the receiver/decoder [100] according to claim 16 including a video device application unit [250] fed from the FIFO section [240] and feeding a chip unit [212] (fig. 2) which is also fed with a bit stream (col. 11, ll. 54-64).

Regarding **claim 26**, Chauvel discloses a broadcast system comprising a receiver/decoder [100] according to claim 16 and a transmission system for transmitting messages to the receiver/decoder [100] (satellite, col. 8, ll. 38-45).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chauvel.

Regarding **claims 17-19**, Chauvel discloses the receiver/decoder [100] of claim 16, but fails to explicitly disclose the FIFO controller includes an occupancy detector for detecting the state of occupancy of the FIFO section, detecting overflow and underflow of said FIFO section, and thresholds relating thereto, as claimed.

Official notice is taken of the fact that it is well known in the art to detect buffer occupancy, buffer overflow and underflow, including thresholds relating thereto, for the purpose of preventing loss of incoming data when buffer overflow has occurred or is impending, and preventing loss of decoder synchronization or video integrity when buffer underflow has occurred or is impending.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Chauvel to include the FIFO controller includes an occupancy detector for detecting the state of occupancy of the FIFO section, detecting overflow and underflow of said FIFO section, and thresholds relating thereto, for the purpose of preventing loss of incoming data when buffer overflow has occurred or is impending, and preventing loss of synchronization or video integrity when buffer underflow has occurred or is impending.

Regarding **claim 20**, Chauvel discloses the receiver/decoder [100] of claim 16, but fails to explicitly disclose the FIFO controller is arranged to flush a message from the FIFO section.

Official notice is taken of the fact that it is well known in the art for a memory to be arranged to flush a message from a buffer, for the purpose of removing erroneous data from the buffer.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Chauvel to include the FIFO controller is arranged to flush a message from the FIFO section, for the purpose of removing erroneous data from the buffer.

5. **Claims 21-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chauvel in view of Campanella (of record) and further in view of Powell (of record).

Regarding **claim 21**, Chauvel discloses a receiver/decoder [100] according to claim 16 comprising a FIFO section [240] and associated controller [310]. However, Chauvel fails to disclose a plurality of buffers and the control means comprises a respective plurality of buffer register control means.

In an analogous art, Campanella discloses a plurality of buffers (buffer pair 149 and 151, fig. 7), for the purpose of enabling an alternating fill pattern permitting continuous flow between the input and output of the buffers (col. 12, ll. 15-20).

Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Chauvel to include a plurality of buffers, as taught by Campanella, for the purpose of enabling an alternating fill pattern permitting continuous flow between the input and output of the buffers. Campanella fails to explicitly disclose the control means comprises a respective plurality of buffer register control means.

Additionally, in an analogous art, Powell discloses the control means (access register unit 100, fig. 1) comprises a respective plurality of buffer register control means (registers START, STOP, IN PTR, and OUT PTR define address space boundaries, as well as read and write address for circular (FIFO)

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buffers in RAM 200, col. 4, ll. 24-31), for the purpose of enabling a memory device to function as a circular FIFO buffer (col. 4, ll. 15-36).

Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Chauvel and Campanella to include the control means comprises a respective plurality of buffer register control means, as taught by Powell, for the purpose of enabling a memory device to function as a circular FIFO buffer in a receiver/decoder.

Regarding claim 22, Chauvel, Campanella, and Powell together disclose the claimed subject matter (see rejection of claim 21).

Regarding claim 23, Chauvel, Campanella, and Powell together disclose the receiver/decoder according to claim 22 (see above). In addition, Campanella discloses the buffer control means (input switch 161, fig. 7) is operable in a bit stream mode in which an incoming bit stream (incoming PRC symbols, col. 12, ll. 2-5) is directed into the currently selected buffer area and is then switched between the two buffer areas as each buffer area in turn becomes full (col. 12, ll. 15-25).

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chauvel, Campanella, and Powell as applied to claim 22 above, and further in view of O'Toole (of record).

Regarding claim 24, Chauvel, Campanella, and Powell together disclose the receiver/decoder according to claim 22, but fail to explicitly disclose the length of an incoming message is compared with the free space in the currently selected buffer area, and if that space is less than the length of the message, the other buffer is selected.

In an analogous art, O'Toole disclose the length of an incoming message (frame) is compared with the free space in the currently selected buffer (30, fig. 7) area (col. 9, ll. 58-60), and if that space is

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less than the length of the incoming message, the other buffer is selected (i.e., in order to store the remaining portion of the frame, col. 9, ll. 60-64, or in the case where the free space in the buffer is less than a minimum limit, the frame is stored entirely in a second buffer, col. 9, l. 65 – col. 10, l. 7), for the purpose of permitting multiple buffers to store long frames of data (col. 9, ll. 62-64).

Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Chauvel, Campanella, and Powell to include the length of an incoming message is compared with the free space in the currently selected buffer area, and if that space is less than the length of the incoming message, the other buffer is selected, as taught by O'Toole, for the purpose of permitting multiple buffers to store long frames of data in a receiver/decoder.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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8. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

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on _____
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Typed or printed name of person signing this certificate:

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Certificate of Transmission

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Lambrecht whose telephone number is (571) 272-7297. The examiner can normally be reached on 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher M Lambrecht
Examiner
Art Unit 2611

CML


HAI TRAN
PRIMARY EXAMINER